Doing no harm

ARTICLE

Doing no harm: Addressing the quality of evidence in translating research to practice in preliminary research fields

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Abstract

Background: Current evidence appraisal rating systems, such as the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system, are oriented toward and anchored by randomized controlled trials (RCTs) as the gold standard methodology. In many fields, this standard of evidence is rarely, if ever, met. Often, research at the clinical application end of the translational process is embedded in real world practice that does not lend itself to RCTs and is characterised by more pragmatic research using mixed methodologies. Arguably, accountability through research evaluation is even more important in such cases where research design is preliminary and clinical impact is, often, already a reality. Further, practice translation must be privileged as the central goal of the research synthesis under such circumstances in that the destination of all clinical science is the person of the patient..

Methods: In response to these demand characteristics, a practitioner-informed research framework was used to drive and pilot development of an evidence quality grading system that could accommodate a disparate and oblique evidence base. Reid's person-centered framework was used to establish whether clinician-derived criteria for quality research practice had been met.

Results: This brief report presents the Quality of Evidence Rating System (QERS) in the hope of facilitating discussion about accountability pathways for translational scientist-practitioners.

Conclusion: The QERS provides a scaffold to help when looking for evidence that researchers have consciously addressed the issues of evidence quality when reporting their research in the published literature.

Keywords

Accountability, child interview techniques, complexity, emergent properties, idiography, mixed methods, nomothetics, person-centered healthcare, person-centered research frameworks, quality of evidence, reflective practice, relational orientation, translational research

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Accepted for publication: 19 June 2017

Introduction

In any process of research synthesis, an evidence quality rating system is needed. Arguably, the gold standard rating system is the Cochrane Grading of Recommendations Assessment, Development and Evaluation (GRADE) [1] which strongly encourages and is anchored in randomized controlled trial (RCT) methodology. Yet in many fields, clinical translation research occurs at point of service where RCT's may be neither feasible nor contextually valid [2]. Often, clinical service research is more pragmatic and utilises mixed methodologies [3]. This presents a conundrum for scientist-practitioners who want to evaluate best treatment practices. In distilling relevant findings from an oblique literature, a quality grading system is, arguably, even more important than evaluating RCTs. We were faced with such a dilemma when attempting to synthesize research evidence about interviewing children. This paper reports on the pilot process of developing the Quality of Evidence Rating System (QERS). The QERS was developed as part of a research project on interviewing children and throughout this article we will make reference and provide examples that were specific to child interviews as examples of practical ways that the QERS was outworked in clinical integration research. The provision of these examples are not meant to limit the scope of the QERS but rather to agitate the scientist-practitioner to identify application of the QERS for extrapolation in different fields.

An initial scan of research studies highlighted several important features that would be required of an evidence-grading system. Specifically, a grading system must

accommodate: (i) Empirical, peer-reviewed literature, as well as 'grey' literature focusing on current clinical practice; (ii) Secondary and incidental sources given the lack of studies that directly and primarily assess the effectiveness of different interview methodologies & (iii) Quantitative and qualitative methodologies and mixed methods.

If findings or implications about interview techniques were to be gleaned from information presented *in*directly, then it was essential to establish confidence that researchers had undertaken the interviews with the quality and contextual validity of the interview in mind. We needed to find a way to identify papers in which researchers had given careful consideration to the conceptualisation, communication and critical evaluation of their interview methodologies. That is, we needed to be sure that they had brought their 'practitioner eye' to the research process.

Reid's [4] person-centered framework was used to establish whether clinician-derived criteria for quality research practice had been met. This model dictates that priority be given to six principal considerations, as discussed below.

Methods

Accountability in methodology

Accountability must not only be provided to the research participant, but also to the end-users upon whom the research findings may have an impact. Specifically, contextual validity in design is privileged as a pre-requisite for confident application. Accountability in methodology in this context may include what was done as well as what was reported (to allow evaluation and replicability). Operationalisation of accountability in the context of conducting child interviews for our study included either of the following indicators which suggest that the basic processes of developmentally responsive and person-centered interviewing were given some consideration:

- Explaining the purpose of the interview to children shows that researchers understand the developmental importance and impact of providing a context for the interview.

- Stating the age of the child and/or what developmental needs they may have and the implications for preferable interview type, maximum number of questions, interview setting, length of interview and use of prompts.

Relational Orientation

That the participant-*person* is prioritised through a methodology that considers connection and engagement between researcher and participant as a necessary prerequisite for authentic engagement and high quality data (as an example see Lim [5]), it meant fully appreciating the developmental needs of the participants. Children are typically in a position of unequal power with adults and the process of participating in an interview with an adult can feel overwhelming. The quality of the data and the wellbeing of the participant will both likely be dependent on establishing a positive, person-centered relationship between researcher and child. Considerations of operationalization when interviewing children included prioritising and reporting on:

- Rapport building and/or designing the interview such that there is attention paid to establishing a friendly and supportive interaction between the child and researcher.

- Assent/consent procedures. Children's assent/consent for involvement is oftentimes assumed. The decision to be involved in research is mostly made by parents without prior consultation with the child. Involving children in the process of assent/consent implies that the researcher is prioritising the needs of the child and as such is considered here as an indicator of a child-centred research process. Even though not legally binding, obtaining assent/consent from children goes beyond an obligatory ethical consideration and contributes to setting the tone for the interview. Informing children about the study, what it entails, the role of the researcher and seeking children's permission to engage in participation, actively and intentionally addresses what is commonly an imbalanced power dynamic between researcher and participant. It is important for researchers to value and understand the implications of a seemingly small 'gesture' of obtaining assent/consent from children as this has ramifications for establishing rapport, as well as sets the foundations for the dynamics of researcher-participant interaction.

Both of these considerations recognize the priority of attending to the developmental needs of the child.

Capturing Complexity

That triangulation of mixed methods is used to strengthen confidence in the body of evidence given the different forms of bias inherent in each methodology. Conducting interviews with children also includes a consideration of linguistic abilities such as language loading of the interview, flexibility for individual differences in cognitive ability, as well as an understanding of developmental competencies at different ages. Two indicators of attempts to capture this complexity during our child interviews include:

Table 1 Person-centered research principles and corresponding operationalisation of Quality of Evidence Rating System (QERS) criteria

Principles of Person-centered research	Operational criteria	Description
Accountability in methodology: Researchers have considered and specified details of methodology especially when working with vulnerable populations such as children.	1. Explain the purpose of the interview to the children	Did children know what the study was about or what the interview was for?
	2. Framing of questions	Were questions developmentally considered for the age of the children?
	3. Interview type	Did the article state the type of interview? E.g., open-ended, structured, diagnostic.
	4. Setting	Where was the interview conducted? Is it child-friendly
	5. Number of questions	How many questions were included in the interview? Is it manageable?
	6. Length of interview	Was the length of interview reported? Was it manageable for a child?
	7. Prompts	Were prompts used during the interview, were these stated explicitly? Were they developmentally relevant?
Relational Orientation: The experience of the participant as a priority and implies that a collaborative approach is necessary, even if the participant is a child.	8. Assent/consent	Was it stated that the child's written assent/consent was obtained?
	9. Rapport	Did the interviewers establish rapport with children - was this explicitly stated/elaborated?
Capturing Complexity: Consideration of different developmental aspects including individual differences.	10. Analysis	Were children's developmental needs and differences taken into consideration during the analysis of the results?
Reflective Practice: Engages in reiterative processes during data collection.	11. Report findings to children	Were findings of the interview reported to children?
	12. Reporting of interview processes	Was the interview process reported in detail? Were there details (e.g., order of interview, sequence of engagement with child *etc*.) that would be suffice for study replication?
Idiographic & Nomethetic: During analysis, attention is given to both group related- and individual- differences.		Reporting on individual case studies in addition to group findings. Looking for convergence and divergence between individual and group findings; valuing similarity and difference.
Emergent properties: Where unexpected findings emerge, the researcher is open minded to consider alternate hypotheses.		Reflecting on the process of interviewing and drawing attention to unexpected findings or curious observations.
		Reporting on a change in direction in the study that resulted from an emergent finding.

- Framing questions in a developmentally responsive way.
- Taking into account the child's profile during data analysis and interpretation.

Reflective Practice

That the researcher takes the time to critically reflect on, evaluate and report the methodological choices they made with respect to the impact on participants. The person-centered research framework highlights the importance of reflecting on the research process, including methodological challenges and efficacy. The presence of any of the indicators below suggests intentional consideration to engaging in reflective practice:

- Reporting findings to children actively includes them as stakeholders and informants in the research process and emphasizes their active and valuable contribution to the study. Most research does not provide feedback to participants about the outcome of the study and this is even rarer when children are involved.
- Providing details of the interview process enables replication by other researchers. Perhaps more importantly, it is the reflection and evaluation of seemingly basic considerations (e.g., did the interview take longer than expected? Were children distressed by the questions? Was the question structure and language comprehensible?) that indicate a point of difference beyond simply eliciting information about a specific topic.

Idiographic and Nomothetic

That attention is given to both group related differences and individual differences. The person-centered framework reminds us that an individual participant is unique and may, through points of difference, alert us to important aspects of general rules or principles. Individual case studies that stand in contrast to general findings can encourage us to reflect on aspects of the research question that we did nor expect and do not understand. In the case of reporting on interviewing children, this might be represented by:

- Reporting on individual case studies in addition to group findings.
- Looking for convergence and divergence between individual and group findings; valuing similarity and difference.

Emergent Properties

That the researcher is not so shackled to hypotheses that they stop noticing unexpected emergent findings. In the case of interviewing children this might include:

- Reflecting on the process of interviewing and drawing attention to unexpected findings or curious observations.
- Reporting on a change in direction in the study that resulted from an emergent finding.

Specific questions representing these six categories are outlined in Table 1.

Considering the quality of a study

In considering the quality of a study, each item was scored with a maximum of 2 points (0 = not present, 1 = partially mentioned, 2 = adequate information for study to be replicated). The minimal 'bar' for acceptable quality for inclusion in research synthesis may be decided on as an absolute level or a relative level, depending on the general stage of development of the research corpus for the domain of interest, though a relative cut-off score prevents floor effects. In our study, a 50% target (i.e., 12 points out of a maximum 24) was set on the basis of a restricted range of scores (a generally poor quality of reporting on methodology) with the view to conducting a very preliminary review to 'shape' or guide future research endeavours relating to interviewing children. It was decided that a 50% score suggested that some degree of conscious priority and attention had been given to developmentally responsive interview methodology.

At first glance, the items in the QERS do not seem particularly sophisticated, complex or comprehensive. However, the preliminary review of the literature identified that these criteria remained unmet in a majority of papers. The process of developing a quality evaluation scale must involve consideration of the scope and limits of the available evidence-base. Operationalizing each research quality criteria so that it is 'within scope' for a majority of studies is the only way to ensure that it is an effective tool for differentiating the body of work. To this end, in our study the final two criteria (Idiographic/Nomothetic and Emergent properties) were not included in the QERS as the body of evidence is too preliminary to support these more sophisticated criteria. In this context, we acknowledge that these criteria are aspirational and will be valuable considerations for the scientist-practitioner in the design and development of future research.

Conclusions

In sum, the QERS provided us with a scaffold to help in looking for evidence that researchers had consciously addressed the issues of evidence quality when reporting their research in the published literature. Specifically, in this case, that they had prioritized the child in the process of designing and/or conducting the interviews [6] as a prerequisite for translational validity. While acknowledging that these are very rudimentary indices of quality and exist prior to those more usually assessed, these preliminary criteria were determined likely to (a)

assist in locating studies worthy of review for the distillation of insight into interviewing children and (b) provide guidance toward the design of future empirical studies for exploration of interview techniques.

Conflicts of Interest

The authors declare no conflicts of interest.

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